REMARKS BEFORE THE COMMITTEE ON INTERNATIONAL RELATIONS
Subcommittee on Africa, Global Human Rights and International Operations
The Honorable Christopher H. Smith, Chairman

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Thank you, Mr. Chairman, for the opportunity to testify before your committee today on the importance and value of telemedicine not only in forging direct working relationships between the institutions and citizens of the United States and those less fortunate and in need throughout the world, but also in accomplishing good works which otherwise would be logistically or financially possible.

My experience with telemedicine dates from July of 2000, when as the founder and chairman of the Sahara Marathon, I and other volunteers were in the Algerian camps of the 200,000 Sahrawi refugees from Western Sahara. We were organizing the first Sahara Marathon, a humanitarian project developed through the U.S.-Western Sahara Foundation, an organization begun by the Defense Forum Foundation of which I am the vice chairman, Ms. Suzanne Scholte is the President, and the Honorable J. William Middendorf, II is the chairman.

The purpose and the history of the Sahara Marathon can be viewed at www.saharamarathon.org, but briefly it has become an effective, multi-national humanitarian effort intended to raise awareness and funding for special projects in the Sahrawi refugee camps to supplement and reinforce the fragile medical infrastructure in the refugee camps to care for the Sahrawi children.

The project of the first marathon was to create a basic satellite telecommunications system to provide telemedicine and Internet distance diagnosing capability to the Sahrawi physicians, and to establish some initial relationships between the doctors in the camps and those in American medical colleges. Our reasoning was that a project that was quickly demonstrated, funded and conducted by volunteers and U.S. institutions would encourage government agencies and other humanitarian organizations to see the incredible value in the relatively inexpensive medical capability using volunteers and emerging technology at that time. It could quickly save lives.

With the help of Barbara Godwin, Farhad Mohamadian and other donors, we were able to secure commercially available satellite phones, modems, scanners, cameras, microphones, power supplies and computers that formed the core of the communications capability. We were fortunate to have Dr. David Gangemi, then from the Medical University of South Carolina (MUSC), leading the medical/nutritional team that included not only Sahrawi physicians in the camps, but also Dr. Peter Cotton and his associates located physically at the MUSC Digestive Disease Center in Charleston, South Carolina. We had on-site technical help from Abel Sanchez of the University of Madrid and from my son, Jennings Carney.

In July of 2000, we conducted through Dr. Gangemi and Dr. Peter Cotton the first ever live, satellite video teleconference from the camps. This teleconference demonstration was attended by 8 Sahrawi physicians and by Dr. Cotton and his associates who were located in Charleston, South Carolina and the technical representative from the University of Madrid.

We successfully scanned and transmitted high-resolution digital files of x-ray film of some of the physician's Sahrawi patients, and conducted a general on-line conversation about celiac disease and ways to offset the harsh effects by increasing assimilable vitamin D in the diet of young refugee children. Attached to this testimony is a proclamation from the Sahrawi physicians attesting to their appreciation not only of our efforts, but acknowledging the importance they placed in the great value of potential direct contact with colleagues in medical institutions.

As a result of this demonstration, several medical universities were willing to volunteer their physicians, medicines and time as their contribution to help the refugees. Additionally, other supportive governments in Europe began looking for ways to support such a program based on the proof of concept demonstration. During the past 5 years, a variety of programs have begun and stopped, each for different reasons.

The conditions in the camps are quite harsh, with wind-driven powdered sand and temperatures in the Sahara summer rising to 125 - 130 degrees Fahrenheit, presenting challenges to the individuals and sensitive medical equipment. But these issues were solved with some ingenuity.

The larger challenge was to maintain the expense of replacement equipment and to fund the satellite communication uplink required to network the medical colleges to the camps. For instance, MUSC and the Medical College of Virginia in Richmond had at the time committed their resources. But for the lack of a governmental or donor subsidy to make the program regular and dependable, this network most likely would be active today.

The expense of the satellite air time at the time was $8/minute using an M4 satellite transceiver/modem for the teleconferences, email and file transfers. Because of the low-horizon latitude of Sahrawi refugee camps in the southwestern desert of Algeria, access to low-cost European satellite networks were problematic, and the costs of the available networks exceeded the funding ability of the Sahara Marathon. New technologies are now more affordable, but the challenge remains the same: in order for the humanitarian organizations and medical colleges to invest their time, medicines and energy, they need to know the uplink will be relatively long-term.

On the larger scale, the prevention of certain preventable pre- and post-natal nutrition deficiencies and stress-induced diseases in children is possible through education and the collaboration between skilled physicians and field practioners who can save millions of lives.

Forward thinking now can promote the public/private partnerships between medical communities who are helping physicians in developing countries. These provide care, diagnosis and treatment to refugee and at-risk populations suffering from stress, infections and insufficient diet resulting from poverty, war, famine and civil strife.

The functional centerpiece of distance diagnosis and telemedicine is technology - satellite modems or other equipment which allow the physicians to communicate with other physicians via the Internet by email, scan and send x-rays, cardiograms and medical records, to conduct live

video conferencing for consultation and surgery and generally connect with the larger world body to request urgently needed supplies, funding and advice.

The philosophical centerpiece, however, is driven by the concerned people and organizations already struggling to maintain infrastructures which currently provide medical care and facilities, many without any governmental support or subsidy. Long-term success is only possible if partnerships that have been formed have the needed support, equipment, structures, communications, medicines and nutritional supplements.

Creating this dependability is a natural role of government, which needs only to be the paymaster for the willing and capable partners already engaged and helping each other. Funding these direct connections promotes the values and compassion in ways not possible through other means. In many cases, no new programs are needed, nor is new technology. The private and non-governmental sectors can and are excellent ambassadors representing the compassion and caring of the American people. The U.S. government through its agencies can magnify and amplify this medical diplomacy simply by providing the financial guarantee that keeps these communication networks funded.

Thank you, Mr. Chairman, for this opportunity today to share these experiences and thoughts with you and your distinguished members of the committee.